PATENT ABSTRACTS OF JAPAN

(11) Publication number:

08-160032

(43) Date of publication of application: 21.06.1996

(51) Int. CI.

GO1N 33/00 GO1N 31/00

H01L 21/66

(21) Application number : 06-303375

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(22) Date of filing:

07. 12. 1994

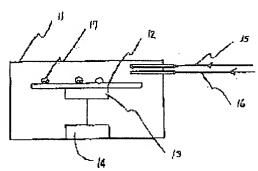
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(54) ANALYSIS OF IMPURITIES ON SURFACE OF SEMICONDUCTOR SUBSTRATE

(57) Abstract:

PURPOSE: To analyze impurities on the surface of a semiconductor substrate with high sensitivity and high accuracy.

CONSTITUTION: An HP ag. soln. or HF vapor is supplied from a line 15 while an O3 aq. soln. or O3 gas is supplied from a line 16 to form an HF/O3 dissolving soln. 17 on the surface of a semiconductor substrate 12 and this semiconductor substrate 12 is subjected to rotary motion by a drive mechanism 14 to allow the dissolving soln. 17 to tumble on the surface of the semiconductor substrate 12. The impurities present on the surface of the semiconductor substrate 12 are dissolved in the dissolving soln. 17. This dissolving soln. 17 is collected by a pipette to be analyzed by a flameless atomic absorption device. By adding HF and 03 to the dissolving soln. 17, an oxidation film is efficiently formed on the surface of the semiconductor substrate 12 by the oxidizing force of 03 and the impurities on the surface of the semiconductor substrate are taken in the oxidation film. Thereafter, since the oxidation film is dissolved by the dissolving force of HF



without etching the semiconductor substrate 12, the kind and amt. of the impurities bonded to the surface of the semiconductor substrate 12 can be measured with high sensitivity and high accuracy.

LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision

of rejection]
[Date of requesting appeal against examiner's decision of rejection]
[Date of extinction of right]

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